Author Index

Beranek, K.L., see Godfrey, D.A. (48) 187

Boettcher, F.A., Salvi, R.J. and Saunders, S.S.
Recovery from short-term adaptation in single neurons in the cochlear nucleus (48) 125

Bohne, B.A., Gruner, M.M. and Harding, G.W.
Morphological correlates of aging in the chinchilla cochlea (48) 79

Cook, K.C., see Park, J.C. (48) 275

Duckert, L.G. and Rubel, E.W.
Ultrastructural observations on regenerating hair cells in the chick basilar papilla (48) 161

Eggermont, J.J.
On the pathophysiology of tinnitus; A review and a peripheral model (48) 111

Faddis, B.T., see McGinn, M.D. (48) 265

Fay, R.R.
Suppression and excitation in auditory nerve fibers of the goldfish, *Carassius auratus* (48) 93

Freeman, D.M. and Weiss, T.F.
Hydrodynamic analysis of a two-dimensional model for micromechanical resonance of free-standing hair bundles (48) 37

Freeman, D.M. and Weiss, T.F.
Hydrodynamic forces on hair bundles at high frequencies (48) 31

Freeman, D.M. and Weiss, T.F.
Hydrodynamic forces on hair bundles at low frequencies (48) 17

Freeman, D.M. and Weiss, T.F.
Superposition of hydrodynamic forces on a hair bundle (48) 1

Godfrey, D.A., Wiet, G.J., Parli, J.A., Beranek, K.L. and Ross, C.D.
Enzymes of transmitter and energy metabolism in rat middle ear and extraocular muscles (48) 187

Gruner, M.M., see Bohne, B.A. (48) 79

Harding, G.W., see Bohne, B.A. (48) 79

Haun, D.K.Z., see Trune, D.R. (48) 241

Heffner, H.E., see Heffner, R.S. (48) 231

Heffner, R.S. and Heffner, H.E.
Hearing in domestic pigs (*Sus scrofa*) and goats (*Capra hircus*) (48) 231

Henning, G.B. and Wartini, S.
The effect of signal duration of frequency discrimination at low signal-to-noise ratios in different conditions of interaural phase (48) 201

Henning, G.B.
The effect of interaural phase on frequency discrimination with broad- and narrow-band maskers (48) 195

Hertler, C.K., see Trune, D.R. (48) 241

Horner, K.C.
Hypersensitivity of hydropic ears, at frequencies with normal thresholds, to temporary threshold shifts (48) 281

Kasper, A., see Pelizzone, M. (48) 287

Kingma, H., see Van den Berge, H. (48) 209

Klinke, R., see Schermuly, L. (48) 69

Kluge, C., see Van den Berge, H. (48) 209

Marres, E.H.M.A., see Van den Berge, H. (48) 209

McGinn, M.D., Faddis, B.T. and Moore, H.C.
Acoustic isolation reduces degeneration of the ventral cochlear nuclei in mongolian gerbils (48) 265

Menton, D.N., see Steinacker, A. (48) 145

Montandon, P., see Pelizzone, M. (48) 287

Moore, H.C., see McGinn, M.D. (48) 265

Park, J.C., Cook, K.C. and Verde, E.A.
Dietary restriction slows the abnormally rapid loss of spiral ganglion neurons in C57BL/6 mice (48) 275

Parli, J.A., see Godfrey, D.A. (48) 187

Pelizzone, M., Kasper, A. and Montandon, P.
Binaural interaction in a cochlear implant patient (48) 287

Radionova, E.A.
Different phase sensitivity of low- and high-frequency neurons from the cat's cochlear nucleus (48) 221

Romero, A., see Steinacker, A. (48) 145

Ross, C.D., see Godfrey, D.A. (48) 187

Rubel, E.W., see Duckert, L.G. (48) 161

Rüsch, A. and Thurm, U.
Spontaneous and electrically induced movements of ampullary kinocilia and stereovilli (48) 247

Salvi, R.J., see Boettcher, F.A. (48) 125
Saunders, S.S., see Boettcher, F.A. (48) 125
Sauter, R.W., see Trune, D.R. (48) 241
Schermuly, L. and Klinke, R.
Origin of infrasound sensitive neurones in the papilla basilaris of the pigeon: an HRP study (48) 69
Starr, A. and Zaaroor, M.
Eighth nerve contributions to cat auditory brainstem responses (ABR) (48) 151
Steinacker, A., Menton, D.N., Adarli, and Romero,
Toadfish saccular hair cell bundle has a preferred orientation in the otolithic membrane (48) 145

Thurm, U., see Rüsch, A. (48) 247
Trune, D.R., Hertler, C.K., Haun, D.K.Z. and Sauter, R.W.
Histochemistry of otic capsule sclerotic lesions in Palmerston North autoimmune strain mice (48) 241

van den Berge, H., Kingma, H., Kluge, C. and Marres, E.H.M.A.
Electrophysiological aspects of the middle ear muscle reflex in the rat: Latency, rise time and effect on sound transmission (48) 209
Verde, E.A., see Park, J.C. (48) 275

Wartini, S., see Henning, G.B. (48) 201
Weiss, T.F., see Freeman, D.M. (48) 1
Weiss, T.F., see Freeman, D.M. (48) 17
Weiss, T.F., see Freeman, D.M. (48) 31
Weiss, T.F., see Freeman, D.M. (48) 37
Wiet, G.J., see Godfrey, D.A. (48) 187

Zaaroor, M., see Starr, A. (48) 151

Subject Index

Acetylcholinesterase
Stapedius; Tensor tympani; Choline acetyltransferase; Malate dehydrogenase; Lactate dehydrogenase (Godfrey, D.A. (48) 187)

Adaptation
Auditory nerve; Cochlear nucleus; Forward masking; Single unit (Boettcher, F.A. (48) 125)

Aging
Presbycusis; Inner ear; Chinchilla (Bohne, B.A. (48) 79)

Amyloid
Inner ear; Fibrinoid; Osteogenesis; Glycoproteins; Calcium; Otic capsule (Trune, D.R. (48) 241)

Attenuation
Middle ear muscle reflex; Latency; Contraction time; Electromyography (Van den Berge, H. (48) 209)

Audiogram
Psychophysics; Ungulates; Ultrasonic; Sound localization; Evolution (Heffner, R.S. (48) 231)

Auditory
Brain stem; Cochlear nucleus; Degeneration; Encephalopathy (McGinn, M.D. (48) 265)

Auditory brainstem responses
Cat; Human; Generators (Starr, A. (48) 151)

Auditory nerve
Goldfish; Hearing; Neurophysiology; Suppression; Tuning (Fay, R.R. (48) 93)

Adaptation; Cochlear nucleus; Forward masking; Single unit (Boettcher, F.A. (48) 125)

Basilar membrane
Infrasound; Pigeon; Hearing; HRP; Macula lagenae; Hair cell (Schermuly, L. (48) 69)

Binaural interaction
Cochlear implants; Evoked potentials (Pelizzone, M. (48) 287)

Binaural masking
Frequency coding; Duration (Henning, G.B. (48) 201)

Binaural masking-level differences
Frequency coding (Henning, G.B. (48) 195)

Brain stem
Auditory; Cochlear nucleus; Degeneration; Encephalopathy (McGinn, M.D. (48) 265)

Ca^{2+}-ion channels
Tinnitus; Neuron model; Spontaneous activity (Eggermont, J.J. (48) 111)

Calcium
Inner ear; Amyloid; Fibrinoid; Osteogenesis; Glycoproteins; Otic capsule (Trune, D.R. (48) 241)

Cat
Auditory brainstem responses; Human; Generators (Starr, A. (48) 151)

Chinchilla
Aging; Presbycusis; Inner ear (Bohne, B.A. (48) 79)

Choline acetyltransferase
Stapedius; Tensor tympani; Acetylcholinesterase; Malate dehydrogenase; Lactate dehydrogenase (Godfrey, D.A. (48) 187)

Cochlea
Hair cell; Hair bundle; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 1)

Hair cell; Hair bundle; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 17)

Hair cell; Hair bundle; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 31)

Hair cell; Hair bundle; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 37)

Dietary restriction; Inner ear; Spiral ganglion; Mouse (Park, J.C. (48) 275)

Endolymphatic hydrops; TTS; Tuning; Efferents; Menières; Guinea pig (Horner, K.C. (48) 281)

Cochlear fluids
Cochlea; Hair cell; Hair bundle; Micromechanics (Freeman, D.M. (48) 1)

Cochlea; Hair cell; Hair bundle; Micromechanics (Freeman, D.M. (48) 17)

Cochlea; Hair cell; Hair bundle; Micromechanics (Freeman, D.M. (48) 31)

Cochlea; Hair cell; Hair bundle; Micromechanics (Freeman, D.M. (48) 37)

Cochlear implants
Binaural interaction; Evoked potentials (Pelizzone, M. (48) 287)

Cochlear mechanisms
Cochlear nucleus; Monaural phase sensitivity; Hearing (Radionova, E.A. (48) 221)

Cochlear nucleus
Adaptation; Auditory nerve; Forward masking; Single unit (Boettcher, F.A. (48) 125)

Monaural phase sensitivity; Cochlear mechanisms; Hearing (Radionova, E.A. (48) 221)

Auditory; Brain stem; Degeneration; Encephalopathy (McGinn, M.D. (48) 265)

Contraction time
Middle ear muscle reflex; Latency; Attenuation; Electromyography (Van den Berge, H. (48) 209)

Degeneration
Auditory; Brain stem; Cochlear nucleus; Encephalopathy (McGinn, M.D. (48) 265)

Dietary restriction
Cochlea; Inner ear; Spiral ganglion; Mouse (Park, J.C. (48) 275)

Duration
Frequency coding; Binaural masking (Henning, G.B. (48) 201)

Efferents
Endolymphatic hydrops; TTS; Tuning; Cochlea; Menières; Guinea pig (Horner, K.C. (48) 281)

Electromyography
Middle ear muscle reflex; Latency; Contraction time; Attenuation (Van den Berge, H. (48) 209)

Electrostriction
Hair cell; Semicircular canal; Hair bundle; Movement; Kinocilium (Rüsch, A. (48) 247)

Encephalopathy
Auditory; Brain stem; Cochlear nucleus; Degeneration (McGinn, M.D. (48) 265)

Endolymphatic hydrops
TTS; Tuning; Cochlea; Efferents; Menières; Guinea pig (Horner, K.C. (48) 281)

Evoked potentials
Binaural interaction; Cochlear implants (Pelizzone, M. (48) 287)

Evolution
Audiogram; Psychophysics; Ungulates; Ultrasonic; Sound localization (Heffner, R.S. (48) 231)

Fibrinoid
Inner ear; Amyloid; Osteogenesis; Glycoproteins; Calcium; Otic capsule (Trune, D.R. (48) 241)

Forward masking
Adaptation; Auditory nerve; Cochlear nucleus; Single unit (Boettcher, F.A. (48) 125)

Frequency coding
Binaural masking-level differences (Henning, G.B. (48) 195)

Duration; Binaural masking (Henning, G.B. (48) 201)

Generators
Auditory brainstem responses; Cat; Human (Starr, A. (48) 151)

Gentamycin
Stereocilia; Nervé terminals; Ototoxicity (Duckert, L.G. (48) 161)

Glycoproteins
Inner ear; Amyloid; Fibrinoid; Osteogenesis; Calcium; Otic capsule (Trune, D.R. (48) 241)

Goldfish
Hearing; Auditory nerve; Neurophysiology; Suppression; Tuning (Fay, R.R. (48) 93)

Guinea pig
Endolymphatic hydrops; TTS; Tuning; Cochlea; Efferents; Menières (Horner, K.C. (48) 281)

Hair bundle
Cochlea; Hair cell; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 1)

Cochlea; Hair cell; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 17)

Cochlea; Hair cell; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 31)

Cochlea; Hair cell; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 37)

Hair cell; Semicircular canal; Movement; Kinocilium; Electrostriction (Rüsch, A. (48) 247)

Hair cell
Cochlea; Hair bundle; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 1)

Cochlea; Hair bundle; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 17)

Cochlea; Hair bundle; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 31)

Cochlea; Hair bundle; Micromechanics; Cochlear fluids (Freeman, D.M. (48) 37)

Infrasound; Pigeon; Hearing; HRP; Basilar membrane; Macula lagenae (Schermuly, L. (48) 69)

Stereocilia; Kinocilia; Otolithic membrane; Saccule; Toadfish (Steinacker, A. (48) 145)

Semicircular canal; Hair bundle; Movement; Kinocilium; Electrostriction (Rüsch, A. (48) 247)

Hearing
Infrasound; Pigeon; HRP; Basilar membrane; Macula lagenae; Hair cell (Schermuly, L. (48) 69)

Goldfish; Auditory nerve; Neurophysiology; Suppression; Tuning (Fay, R.R. (48) 93)

Cochlear nucleus; Monaural phase sensitivity; Cochlear mechanisms (Radionova, E.A. (48) 221)

HRP
Infrasound; Pigeon; Hearing; Basilar membrane; Macula lagenae; Hair cell (Schermuly, L. (48) 69)

Human
Auditory brainstem responses; Cat; Generators (Starr, A. (48) 151)

Infrasound
Pigeon; Hearing; HRP; Basilar membrane; Macula lagenae; Hair cell (Schermuly, L. (48) 69)

Inner ear
Aging; Presbycusis; Chinchilla (Bohne, B.A. (48) 79)

Amyloid; Fibrinoid; Osteogenesis; Glycoproteins; Calcium; Otic capsule (Trune, D.R. (48) 241)

Cochlea; Dietary restriction; Spiral ganglion; Mouse (Park, J.C. (48) 275)

Kinocilia
Stereocilia; Otolithic membrane; Saccule; Toadfish; Hair cell (Steinacker, A. (48) 145)

Kinocilium
Hair cell; Semicircular canal; Hair bundle; Movement; Electrostriction (Rüsch, A. (48) 247)

Lactate dehydrogenase
Stapedius; Tensor tympani; Choline acetyltransferase; Acetylcholinesterase; Malate dehydrogenase (Godfrey, D.A. (48) 187)

Latency
Middle ear muscle reflex; Contraction time; Attenuation; Electromyography (Van den Berge, H. (48) 209)

Macula lagenae
Infrasound; Pigeon; Hearing; HRP; Basilar membrane; Hair cell (Schermuly, L. (48) 69)

Malate dehydrogenase
Stapedius; Tensor tympani; Choline acetyltransferase; Acetylcholinesterase; Lactate dehydrogenase (Godfrey, D.A. (48) 187)

Menières
Endolymphatic hydrops; TTS; Tuning; Cochlea; Efferents; Guinea pig (Horner, K.C. (48) 281)

Micromechanics
Cochlea; Hair cell; Hair bundle; Cochlear fluids (Freeman, D.M. (48) 1)

Cochlea; Hair cell; Hair bundle; Cochlear fluids (Freeman, D.M. (48) 17)

Cochlea; Hair cell; Hair bundle; Cochlear fluids (Freeman, D.M. (48) 31)

Cochlea; Hair cell; Hair bundle; Cochlear fluids (Freeman, D.M. (48) 37)

Middle ear muscle reflex
Latency; Contraction time; Attenuation; Electromyography (Van den Berge, H. (48) 209)

Monaural phase sensitivity
Cochlear nucleus; Cochlear mechanisms; Hearing (Radionova, E.A. (48) 221)

Mouse
Cochlea; Dietary restriction; Inner ear; Spiral ganglion (Park, J.C. (48) 275)

Movement
Hair cell; Semicircular canal; Hair bundle; Kinocilium; Electrostriction (Rüsch, A. (48) 247)

Nerve terminals
Stereocilia; Gentamycin; Ototoxicity (Duckert, L.G. (48) 161)

Neuron model
Tinnitus; Ca^{2+}-ion channels; Spontaneous activity (Eggermont, J.J. (48) 111)

Neurophysiology
Goldfish; Hearing; Auditory nerve; Suppression; Tuning (Fay, R.R. (48) 93)

Osteogenesis
Inner ear; Amyloid; Fibrinoid; Glycoproteins; Calcium; Otic capsule (Trune, D.R. (48) 241)

Otic capsule
Inner ear; Amyloid; Fibrinoid; Osteogenesis; Glycoproteins; Calcium (Trune, D.R. (48) 241)

Otolithic membrane
Stereocilia; Kinocilia; Saccule; Toadfish; Hair cell (Steinacker, A. (48) 145)

Ototoxicity
Stereocilia; Nerve terminals; Gentamycin (Duckert, L.G. (48) 161)

Pigeon
Infrasound; Hearing; HRP; Basilar membrane; Macula lagenae; Hair cell (Schermuly, L. (48) 69)

Presbycusis
Aging; Inner ear; Chinchilla (Bohne, B.A. (48) 79)

Psychophysics
Audiogram; Ungulates; Ultrasonic; Sound localization; Evolution (Heffner, R.S. (48) 231)

Saccule
Stereocilia; Kinocilia; Otolithic membrane; Toadfish; Hair cell (Steinacker, A. (48) 145)

Semicircular canal
Hair cell; Hair bundle; Movement; Kinocilium; Electrostriction (Rüsch, A. (48) 247)

Single unit
Adaptation; Auditory nerve; Cochlear nucleus; Forward masking (Boettcher, F.A. (48) 125)

Sound localization
Audiogram; Psychophysics; Ungulates; Ultrasonic; Evolution (Heffner, R.S. (48) 231)

Spiral ganglion
Cochlea; Dietary restriction; Inner ear; Mouse (Park, J.C. (48) 275)

Spontaneous activity
Tinnitus; Neuron model; Ca^{2+}-ion channels (Eggermont, J.J. (48) 111)

Stapedius
Tensor tympani; Choline acetyltransferase; Acetylcholinesterase; Malate dehydrogenase; Lactate dehydrogenase (Godfrey, D.A. (48) 187)

Stereocilia
Kinocilia; Otolithic membrane; Saccule; Toadfish; Hair cell (Steinacker, A. (48) 145)

Nerve terminals; Gentamycin; Ototoxicity (Duckert, L.G. (48) 161)

Suppression
Goldfish; Hearing; Auditory nerve; Neurophysiology; Tuning (Fay, R.R. (48) 93)

Tensor tympani
Stapedius; Choline acetyltransferase; Acetylcholinesterase; Malate dehydrogenase; Lactate dehydrogenase (Godfrey, D.A. (48) 187)

Tinnitus
Neuron model; Ca^{2+}-ion channels; Spontaneous activity (Eggermont, J.J. (48) 111)

Toadfish
Stereocilia; Kinocilia; Otolithic membrane; Saccule; Hair cell (Steinacker, A. (48) 145)

TTS
Endolymphatic hydrops; Tuning; Cochlea; Efferents; Menières; Guinea pig (Horner, K.C. (48) 281)

Tuning
Goldfish; Hearing; Auditory nerve; Neurophysiology; Suppression (Fay, R.R. (48) 93)

Endolymphatic hydrops; TTS; Cochlea; Efferents; Menières; Guinea pig (Horner, K.C. (48) 281)

Ultrasonic
Audiogram; Psychophysics; Ungulates; Sound localization; Evolution (Heffner, R.S. (48) 231)

Ungulates
Audiogram; Psychophysics; Ultrasonic; Sound localization; Evolution (Heffner, R.S. (48) 231)